

IN THE CLAIMS

1. (Currently Amended) A method for generating an optical image, comprising:
forming an optical image with at least one optical element of an optical imaging system while modifying wavefront phase, wherein modifying phase does not reduce an optical bandpass limited by an aperture of the optical imaging system, and
detecting the optical image over a range of spatial frequencies such that there are no zeros in an optical transfer function of the optical imaging system over ~~subsequent~~ detected spatial frequencies ~~of the optical image within the optical bandpass~~ over an extended depth of focus that is larger than a depth of focus occurring without modifying wavefront phase.
2. (Original) The method of claim 1, the step of modifying phase comprising utilizing an optical mask.
3. (Currently Amended) The method of claim 2, further comprising the step of
post-processing ~~the optical image to remove effects induced by the optical mask,~~ to render an electronic image that is clearer over the extended depth of focus as compared to an electronic image formed without utilizing the optical mask and over the extended depth of focus.
- 4.-6. (Canceled)
7. (Currently Amended) A system for forming an image, comprising:
at least one lens and an optical mask that cooperate to form an optical image that is limited in frequency content by an aperture of the lens or of the optical mask, and
a detector for detecting the optical image over a range of spatial frequencies,
the optical mask modifying wavefront phase such that there are no zeros in an optical transfer function of the system over ~~subsequent~~

detected spatial frequencies of the optical image over an extended depth of focus larger than a depth of focus formed without the optical mask.

8. (Original) The system of claim 7, further comprising a detector for detecting the optical image and a post-processor for processing the detected optical image to reverse blurring effects induced by the optical mask and to form an electronic image that is clearer over the extended depth of focus as compared to an electronic image formed without the optical mask and over the extended depth of focus.

9. (Currently Amended) A system for forming an image, comprising: a lens and a phase mask that cooperate to form an optical image characterized by an optical transfer function that has no zeros within detected spatial frequencies of a detector that detects the optical image over a larger depth of focus than without the phase mask, wherein the phase mask does not reduce an optical bandpass limited by an aperture of the lens or of the phase mask.

10. (Currently Amended) The system of claim 9, further comprising a ~~detector that detects the optical image and means for post-processing the~~ detected optical image to reverse a phase modification induced in the optical image by the phase mask, to generate an electronic image that is clear over an extended depth of field.

11. (Currently Amended) A system having insensitivity to misfocus, comprising:
at least one lens, ~~and~~ an optical mask and a detector that cooperate to form ~~an~~ detected optical image, the optical mask modifying wavefront phase such that there are no zeros in ~~subsequent~~ an optical transfer function of the system within detected spatial frequencies of the detected optical image over a range of ~~misfocus beyond $\pm \pi/10$~~ from $-\pi/10$ to $\pi/10$.